CLAIMS

1. Method of screening for compounds that suppress the concentration of active glutathione transferase (GST) protein or inhibit the steroid isomerase activity of glutathione transferase (GST), wherein a glutathione transferase (GST) is used as a drug target.

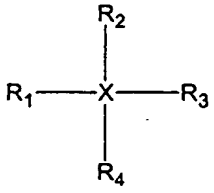
2. Method according to claim 1, wherein the GST used is GST A3-3.

3. Method according to claim 1, wherein the GST used is GST A1-1.

4. An inhibitor that inhibits the steroid isomerase activity of glutathione transferase (GST) identifiable by the method according to any of claims 1-3.

5. An inhibitor lowering the tissue concentration of active glutathione transferase (GST) identifiable by the method according to any of claims 1-3.

6. An inhibitor according to claim 4, wherein the inhibitor is a compound having the following formula:



wherein R_1, R_2, R_3 and R_4 can be alkyl groups, such as methyl, ethyl, propyl, butyl, pentyl, hexyl; aryl groups, such as phenyl or substituted phenyl, preferably substituted with lower alkyl, hydroxyl or alkoxy groups; or chemical derivatives or combinations of these groups; the R_1, R_2, R_3 and R_4 groups can be linear; branched, such as substituted with lower alkyl, hydroxyl or alkoxy groups; or cyclic, such as cyclopentyl and cyclohexyl; the R_1, R_2, R_3 and R_4 groups can contain heteroatoms such as O, S, and N; alternatively, one, two, three or four of R_1, R_2, R_3 and R_4 can be Cl, Br, I, O, S, Se, carboxylate ions such as acetate and homologs, or other chemical ligands with an electron-donating group coordinated to X;
X= Ge, Sn, Pb or similar electrophilic atoms;

as well as stereoisomers of the inhibitor.

7. An inhibitor according to claim 6, wherein X is Sn.

8. An inhibitor according to claim 6 or 7, wherein one of R_1- R_4 is Cl, Br or acetate and the other substituents are ethyl, butyl or phenyl.

9. An inhibitor according to claim 4, wherein the inhibitor is a steroid, steroid derivative or steroid-mimetic compound.

10. An inhibitor according to claim 9, wherein the inhibitor is Δ^5-androsten-3β-ol-17-one or a structurally similar compound.

11. An inhibitor according to claim 4, wherein the inhibitor is a peptide, peptide derivative or peptidomimetic compound with structural similarities to glutathione.

12. An inhibitor according to claim 11, wherein the inhibitor is an S-substituted, and/or otherwise substituted, glutathione derivative where the substituents may be alkyl, aryl and aralkyl groups.

13. An inhibitor according to claim 12, wherein the inhibitor is S-hexyl-glutathione or S-p-bromobenzyl-glutathione.

14. An inhibitor according to claim 5, wherein the inhibitor is an inhibitory nucleic acid such as an oligonucleotide, an inhibitory RNA (siRNA or RNAi) or PNA (a peptide nucleic acid).

15. An inhibitor according to claim 4-14 for use as a medicament.

16. A medicament according to claim 15 for use in treatment of steroid hormone dependent diseases in a mammal.

17. A medicament according to claim 16 for use in treatment of steroid hormone dependent cancer.

18. A medicament according to claim 17 for use in treatment of prostate cancer.

19. A medicament according to claim 17 for use in treatment of breast cancer.

20. A medicament according to claim 16 for use in treatment of Cushing's syndrome.

21. A method for treating cancer or steroid hormone dependent diseases, comprising administering a compound that suppresses the concentration of active glutathione transferase (GST) protein or inhibits the steroid isomerase activity of glutathione transferase (GST) of GST A3-3 and/or GST A1-1 to a human in need of such a treatment.

22. A method according to claim 21, wherein the human is a male who suffers from prostate cancer.

23. A method according to claim 21, wherein the human is a female who suffers from breast cancer.

24. A method according to claim 21, wherein the human is suffering from Cushing's syndrome.